

ATTACHMENT

DRAFT OF RECOMMENDED DCI LETTER TO THE PRESIDENT

There is a growing interest in both the Soviet Union and the United States in the development of Earth Satellite Vehicles (ESV) as a result of the large-scale missile development effort. It seems inevitable that either the United States or the Soviet Union will place an ESV in space within the next few years.

In order to retain the initiative in the ESV field and yet avoid any military stigma, it would be of great psychological and political advantage for the U.S. to launch a first ESV in a peaceful setting which stressed the scientific research aspects of the development. This would also set an international precedent that would make it easier for the U.S. to conduct future ESV launchings.

The attached CIA staff study has led to the conclusion that the forthcoming International Geophysical Year, 1957-58, affords a unique opportunity for such sponsorship. There is increasing interest in scientific circles in the possibility of launching a small U.S. sponsored ESV as one of the events of that year.

It is therefore recommended that a Presidential Directive be issued as suggested on page 4 of Tab A.

1. A tentative requirement for the development of an ESV in conjunction with the International Geophysical Year, 1957-58.

2. A select scientific group, appointed by and acting under the Scientific Advisory Committee of ODM, to render an official decision on the feasibility of the project, and to implement this decision, if favorable.

Tab A - Satellite Discussion

Tab B - US/Soviet Stage of Development

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TAB A

## EARTH SATELLITE VEHICLE (ESV)

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A

### PROBLEM

To examine the significance and status of Earth Satellite Vehicle (ESV) development in the U.S., and to determine necessary actions at this time in the interests of the national and international security.

### DISCUSSION

The launching of an ESV has been a traditional dream of space travel enthusiasts which now gives some promise of early realization. The large-scale development effort in high-altitude, high-power missiles has brought about this possibility. Regardless of when or where an ESV is successfully launched for the first time, it is generally agreed that this event will mark the first step in the conquering of space and thus, the beginning of an entirely new era in human experience.

There are two principal military advantages. First, in its earliest form the ESV will help pave the way for the full development of an intercontinental ballistic missile through data acquired, and second, in its more developed form it will provide a platform for continuous photographic surveillance of denied areas, a direct intelligence application. The more immediate advantages to be realized, however, are political and purely scientific in nature. The ESV will bring potent benefits to scientific research in providing an extremely high altitude observation platform. From a political point of view, the ESV may bring rich prestige rewards to the sponsoring nation. This aspect appears especially important at this time.

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It is difficult to comprehend fully the world reaction to a public announcement of an ESV and the advantage which would accrue to the nation which first succeeded in this effort. If the Soviet Union made such an announcement, which would be verifiable by radar observation, and if Soviet propaganda took full advantage of the accomplishment, it might sway the balance of power significantly in their favor at a strategic moment. From a military point of view, it would indicate a developing capability for the achievement of an intercontinental ballistic missile, as well as for the eventual development of a larger ESV which in itself might become a dangerous military weapon. The psychological threat, however, might far exceed the actual threat, if the development timing and the public announcement were properly handled. Whether or not the Soviet Union actually made public announcement and took full psychological advantage of such an accomplishment, a capability in this area, not properly anticipated and neutralized, would represent a serious threat to U.S. national security.

All of these questions surrounding ESV development find their simplest and most complete resolution in a suggestion which is now gaining favor in U.S. scientific circles--that a small U.S.-sponsored ESV be launched publicly as a part of the International Geophysical Year, 1957-58, in the interests of scientific research. It would be quite possible to launch an ESV publicly without revealing design details of military security connotation and it might be a very effective gesture on the part of the U.S. to invite international

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participation in such an event. This would make it possible for the U.S. to take the necessary initiative in this area with a clearly peaceful intent.

U.S. development is now thought to be sufficiently advanced to test-launch successfully a small ESV carrying telemetering equipment by 1957-58. The ESV development capability of the Soviet Union is estimated to be sufficiently close to that of the U.S. to justify the concern expressed in this memorandum.

#### CONCLUSIONS

1. In the interests of the national and international security, the first ESV should be launched on the initiative of the U.S., but in an overt atmosphere of healthy international scientific cooperation.
2. In pursuance of this objective, the U.S. Government should give clear and over-all backing to the development of a small ESV in conjunction with the International Geophysical Year, 1957-58.

#### RECOMMENDATIONS

1. That the U.S. Government establish a tentative requirement for the development of an ESV in conjunction with the International Geophysical Year, 1957-58, to insure U.S. supremacy in this field and the full exploitation of this capability on the part of the U.S. in the interests of world stability.
2. That a select scientific group be appointed by action of the Scientific Advisory Committee of ODM to render an official decision, in collaboration with the Defense Department and the National Science Foundation, on the feasibility of developing an ESV in conjunction

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with the International Geophysical Year, and if a favorable decision is reached, to establish and monitor the program of development.

3. Should the program be established, that the National Science Foundation be designated as the sponsoring agent and official U.S. representative for international liaison and planning in connection with this event, and that the Defense Department be given responsibility, as agent for the National Science Foundation, for the development of an appropriate ESV for test launching in conjunction with the International Geophysical Year, 1957-58.

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TAB B

# STATUS OF EARTH SATELLITE VEHICLE (ESV) DEVELOPMENT

## SOVIET UNION

Although the Soviet Union has disclaimed any military intent in such a development, their traditional interest in the entire field of space travel is very clear. There is a substantial body of Soviet literature on this subject, some of which was recently reported in a special feature in Look magazine (27 July 1954). A recent statement by a Soviet scientist (V. Dobronravov, Deputy Chairman of the Scientific-Technical Committee of Cosmic Navigation, Central Air Club of the Soviet Union) has confirmed Soviet interest in the possibility of launching an artificial earth satellite to circle the earth. The statement predicted that the Russians would create such a satellite within ten years, and that this would be the first step in the realization of interplanetary flight. This interest was also indicated by [REDACTED] who was interrogated the early part of this year on the Soviet missile development program. He reported that he found a "love for the missile problem" in the Soviet Union which he had not experienced in Germany--it is typical of such enthusiasm to look for the ultimate in missile development, the space travel possibilities. It is known that Stalin himself took a personal interest in long-range missile possibilities.

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B

also of special interest that Lt. Col. Leonid Pivnev, formerly of the

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Soviet Embassy in Washington and recently returned to the Soviet Union because of espionage activity in the U.S., applied for membership in the Baltimore Chapter of the American Rocket Society, an organization which has space travel as one of its main interests.

K1 Current [ ] estimates give the Soviet Union an intercontinental missile capability in 1960 at the earliest, but most probably in 1963. This would indicate a possible ESV capability prior to 1960 since the ESV is a simpler technical problem and represents a natural preliminary step in developing the intercontinental ballistic missile. Until information is received to the contrary, it must be assumed that the Soviet Union will endeavor to launch an ESV at the earliest possible date, that she has a development capability to do so which is very close to that of the U.S., and that she would capitalize fully on the propaganda value to be realized in the event of a successful launching.

#### UNITED STATES

Considerable missile development work is being carried on in the U.S. which has direct application to the development of an ESV and much thought has been given to the ESV problem. There are two missile developments which provide the most immediate possibility for the launching of an ESV. The Army REDSTONE missile being developed at Redstone Arsenal, Alabama, under the direction of the famous German Dr. Von Braun; and the Air Force ATLAS, being developed by Consolidated Vultee Corporation, California, this project having been recently

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revived under high-level control. The ATLAS will provide the ultimate in power, and will make possible the launching of a relatively large ESV, capable of all the applications discussed. The REDSTONE will be more quickly available, but will be capable of launching only a relatively small ESV. Additional missile stages would be used with REDSTONE, various designs having been visualized.

Several U.S. study efforts on the ESV have grown out of the basic missile development work. The Air Force Project [ ] was a long-term design study carried out by the Rand Corporation over the period 1946-54. It considered in detail the use of the ESV for pioneer photographic reconnaissance of the U.S.S.R., or any other potential enemy territory. It contemplated the use of a launching missile similar to ATLAS. The project has resulted in a detailed engineering proposal for the development of an ESV over a seven-year period at a cost of 160 million dollars. 25X

Dr. Von Braun has given considerable thought to the use of the REDSTONE missile to launch an ESV, and has in mind several possible versions. Only recently, however, has he been authorized by the Army to make detailed design studies. It is very likely that Dr. Von Braun's work will lead to the first actual ESV possibility, although it will be very small.

Dr. Fred Singer of the University of Maryland has also been a very active ESV proponent. He has been in contact with ONR on this work, but his studies have been carried out largely on his own initiative under the name Project [ ] and contemplate the use of the REDSTONE missile. X1

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X1 An actual requirement for the development and launching of an ESV has not existed until recently. The Air Force has now established an official requirement, however, by action of the Air Force Requirements Committee. The Air Force effort will probably be a long-term program based on the ATLAS and [ ] projects.

ONR has also established a study very recently, which incorporates a series of satellite projects of increasing complexity. Their work on the initial satellite proposals, either a slug or small package capable of telemetering basic scientific data, would very likely form a suitable basis for the International Geophysical Year plan. The Navy recently obtained consent from the Army to use the REDSTONE missile in their research.

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